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EXAMINER

MOORE, JAMES K

ART UNIT

PAPER NUMBER

2682

DATE MAILED: 03/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/287,264

Applicant(s)

AGIN ET AL.

Examiner

James K Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-18,21,23 and 25-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-18,21 and 25-27 is/are allowed.
- 6) ☒ Claim(s) 23,28-31,33,34,36-45 and 51-57 is/are rejected.
- 7) ☒ Claim(s) 32,35 and 46-50 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 43 is objected to because of the following informalities: it depends on claim 22, which has been cancelled. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. **Claims 23, 44, and 51-57** are rejected under 35 U.S.C. 102(e) as being anticipated by Kansakoski et al. (U.S. Patent No. 6,377,813).

Regarding **claim 23**, Kansakoski discloses a method for improving performances of a mobile radiocommunication system using a power control algorithm. The method comprises regularly estimating whether a criterion is met as to whether the power control algorithm should better not be performed (whether the estimated velocity of the mobile station is above a threshold value), and not performing any power control algorithm in accordance with a result of the estimating step. See col. 8, lines 8-34 and col. 11, line 41 through col. 12, line 20 (especially col. 12, lines 8-20).

Regarding **claim 44**, Kansakoski discloses all of the limitations of **claim 23**, and also discloses that the method comprises regularly estimating if a criterion (estimated velocity) is met as to whether the power control algorithm should better be de-activated,

when activated, or activated, when de-activated, and de-activating, or activating, the power control algorithm if the corresponding criterion is met. See col. 11, lines 41-62.

Regarding **claim 51**, Kansakoski discloses all of the limitations of **claim 23**, and also discloses that the method is performed in the uplink transmission direction of the mobile radiocommunication system. See col. 11, line 41 through col. 12, line 20.

Regarding **claim 52**, Kansakoski discloses all of the limitations of **claim 23**, and also discloses that the method may be performed in the downlink transmission direction of the mobile radiocommunication system. See col. 12, lines 37-62.

Regarding **claim 53**, Kansakoski discloses all of the limitations of **claim 23**, and also discloses that the mobile radiocommunication system is of CDMA type. See col. 2, lines 62-66.

Regarding **claim 54**, Kansakoski discloses all of the limitations of **claim 23**, and also discloses a mobile radiocommunication network entity (base station) comprising means for performing the method and means for sending corresponding power control commands to a mobile station. See col. 11, line 41 through col. 12, line 20, and col. 12, lines 37-62.

Regarding **claim 55**, Kansakoski discloses all of the limitations of **claim 23**, and also discloses a mobile station comprising means for receiving power control commands from a mobile radiocommunication network entity (base station) according to the method. See col. 11, line 41 through col. 12, line 20, and col. 12, lines 37-62.

Regarding **claim 56**, Kansakoski discloses all of the limitations of **claim 23**, and also discloses a mobile station comprising means for performing the method and means

for sending corresponding power control commands to a mobile radiocommunication network entity (base station). See col. 11, line 41 through col. 12, line 20, and col. 12, lines 37-62.

Regarding **claim 57**, Kansakoski discloses all of the limitations of **claim 23**, and also discloses a mobile radiocommunication network entity (base station) comprising means for receiving power control commands from a mobile station according to the method. See col. 11, line 41 through col. 12, line 20, and col. 12, lines 37-62.

4. **Claims 28-31, 34, and 38-42** are rejected under 35 U.S.C. 102(e) as being anticipated by Vembu.

Regarding **claim 28**, Vembu discloses a method for improving the performance of a mobile radiocommunication system using a power control algorithm (tracking mode algorithm), the method comprising: regularly estimating if a criterion is met (received signal-to-noise ratio is below a nominal level) as to whether the power control algorithm should better be deactivated; and deactivating the power control algorithm if the criterion is met. The de-activation of the tracking mode algorithm includes performing a different type of algorithm (burst mode algorithm). The algorithm (tracking mode algorithm) and the other algorithm (burst mode algorithm) are chosen in a group comprising closed-loop power control algorithms and open-loop power control algorithms, since both algorithms are types of closed-loop power control algorithms. See col. 4, lines 18-57, col. 6, lines 18-67, and Figure 3.

Regarding **claim 29**, Vembu discloses everything claimed as applied to **claim 28** above, and additionally discloses that the power control method comprises: regularly estimating if the criterion is met as to whether the power control algorithm should better be deactivated, when activated, or activated, when deactivated; and deactivating, or activating the power control algorithm if the corresponding criterion is met. See col. 4, lines 18-57, col. 6, lines 18-67, and Figure 3.

Regarding **claim 30**, Vembu discloses everything claimed as applied to **claim 28** above, and additionally discloses that the power control method includes a provision which prevents the algorithm from deactivating or activating too frequently: modification of the signal-to-noise ratio threshold to be a range of values, rather than a single value. See col. 7, lines 1-6.

Regarding **claim 31**, Vembu discloses everything claimed as applied to **claim 28** above, and additionally discloses that estimation as to whether the criterion is met is based on an estimation of a deviation value, representative of a deviation between an estimated transmission quality (signal-to-noise ratio of a received signal) and a target transmission quality (signal-to-noise threshold value). See col. 4, lines 18-57 and col. 6, lines 18-67.

Regarding **claim 34**, Vembu discloses everything claimed as applied to **claim 31** above, and additionally discloses that the estimated transmission quality is represented by a received signal power (signal-to-noise ratio). See col. 4, lines 18-57 and col. 6, lines 18-67.

Regarding **claim 38**, Vembu discloses everything claimed as applied to **claim 28** above, and additionally discloses that the power control method may be implemented in any communication system and further mentions the use of power control methods in CDMA communication systems. See col. 1, lines 36-53 and col. 3, lines 32-40.

Regarding **claims 39 and 41**, Vembu discloses everything claimed as applied to **claim 28** above, and additionally discloses a mobile radiocommunication network entity/mobile station (104A) comprising, for performing the power control method: means (112A) for performing the method, and means (108A) for sending corresponding power control commands to a mobile station/network entity (104B). See col. 4, lines 18-57 and col. 6, lines 18-67.

Regarding **claims 40 and 42**, Vembu discloses everything claimed as applied to **claim 28** above, and additionally discloses a mobile station/network entity (104B), comprising, for performing the method: means (112B) for receiving power control commands from a mobile radiocommunication network entity/mobile station (104A), according to the method. See col. 4, lines 18-57 and col. 6, lines 18-67.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. **Claims 33, 36, and 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Vembu in view of well known prior art.

Regarding **claim 33**, Vembu discloses everything claimed as applied to **claim 31** above but Vembu fails to disclose that the estimated transmission quality is represented by an estimated signal-to-interference ratio. However, the Examiner takes Official Notice that it is well known in the art that a signal-to-interference ratio is a good indication of the quality of a transmission. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Vembu's invention by representing the estimated transmission quality by an estimated signal-to-interference ratio, in order to provide a good indication of the quality of the transmission.

Regarding **claims 36 and 37**, Vembu disclose everything claimed as applied to **claim 28** above, but Vembu fails to disclose whether the method is performed in the uplink or downlink transmission direction of the mobile radiocommunication system. However, the Examiner takes Official Notice that it is well known in the art to perform power control in both the uplink and downlink transmission directions of mobile radiocommunication systems, and that performing power control maximizes received signal quality. It would have been obvious to one of ordinary skill in the art at the time of the invention to perform Vembu's power control method in either the uplink or downlink transmission direction of the mobile radiocommunication system, in order to maximize the received signal quality in the uplink and downlink directions.

7. **Claim 45** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kansakoski et al. in view of Vembu.

Regarding **claim 45**, Kansakoski discloses all of the limitations of **claim 23**, but does not disclose that provision is made not to deactivate, or activate, the algorithm too frequently. However, Vembu teaches the use of a provision, using a range of power control threshold values rather than a single threshold, to prevent a power control algorithm from deactivating or activating too frequently. See col. 7, lines 1-6. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kansakoski with Vembu, such that provision is made not to deactivate, or activate, the algorithm too frequently, in order to prevent the mobile station's processor from becoming overworked when the mobile station is traveling at a velocity that is bordering the threshold level.

Response to Arguments

8. Applicant's arguments with respect to claims 23 and 44-57 have been considered but are moot in view of the new ground(s) of rejection.

9. Applicant's arguments with respect to claim 28 have been fully considered but they are not persuasive.

Regarding claim 28, the claim recites a "power control algorithm" and "a different type of algorithm than said power control algorithm", and also recites that "said algorithm and said other algorithm are chosen in a group comprising closed-loop power control algorithms and open-loop power control algorithms". The applicant argues that "if one algorithm is of a closed loop type then the other must be an open loop type".

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See page 6 of the Amendment. However, the examiner disagrees because both algorithms may be different types of closed loop power control algorithms (e.g., burst-mode and tracking-mode) and still read on the language of the claim.

Allowable Subject Matter

10. **Claims 2-18, 21, and 25-27** are allowed.

11. **Claims 32, 35, and 46-50** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

The present invention is directed to a method for improving the performance of a mobile radiocommunication system using a power control algorithm. The method comprises regularly estimating whether a criterion is met as to whether the power control algorithm should better not be performed.

Claim 46 identifies the uniquely distinct feature "wherein said estimation as to whether said criterion is met is based on an estimation of a deviation value, representative of a deviation between an estimated transmission quality and a target transmission quality".

The closest prior art, Kansakoski et al., discloses a method for improving the performance of a mobile radiocommunication system using a power control algorithm. The method comprises regularly estimating whether a criterion is met as to whether the power control algorithm should better not be performed. However, Kansakoski et al. fails to anticipate or render the above underlined limitations obvious.

Claims 47-50 depend on **claim 46**.

Claims 2-18 and 21 are allowed for the reasons set forth in the Office Action mailed on March 12, 2002 (Paper No. 20).

Claims 25-27 are allowed for the reasons set forth in the Office Action mailed on August 15, 2002 (Paper No. 22).

The allowable subject matter of **claims 32 and 35** was also indicated in the Office Action mailed on August 15, 2002.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ken Moore, whose telephone number is (703) 308-6042. The examiner can normally be reached on Monday-Friday from 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost, can be reached at (703) 305-4778.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


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Ken Moore

3/7/03

JKM


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